

Photoelectrics Through-beam, Transistor Output Type PD70CNT12..

CARLO GAVAZZI



- Doors and Entrance control
- Range 12 m
- Modulated, infrared light
- Supply voltage: 10 to 30 VDC
- Output: 100 mA, NPN or PNP type
- Make or break switching
- LED for output indication or power supply
- Protection: reverse polarity, short circuit, transients
- Cable versions or M8 connector
- Emitter mute
- CE and UL325 approved



Product Description

The PD70 sensor family of Photoelectric sensors is specially designed for Doors and Entrance control to meet the requirements in the door market. The slim housing design fits inside the alu-

minium frame of e.g. sliding doors.

The emitter has a test input to turn it off for evaluation of the sensor function. Available in 10-30 VDC version.

Ordering Key

PD70CNT12NOM5MH

Type _____
Housing style _____
Housing size _____
Housing material _____
Sensor code _____
Detection principle _____
Sensing distance _____
Output type _____
Output configuration _____
Connection type _____
Mute input _____

Type Selection

Test	Range S _n	Con- nec- tor	Ordering no. Receiver NPN, NO	Ordering no. Receiver NPN, NC	Ordering no. Receiver PNP, NO	Ordering no. Receiver PNP, NC	Ordering no. Emitter
Mute Low	12 m	NO	PD70CNT12NO	PD70CNT12NC	PD70CNT12PO	PD70CNT12PC	PD70CNT12ML
Mute Low	12 m	YES	PD70CNT12NOM5	PD70CNT12NCM5	PD70CNT12POM5	PD70CNT12PCM5	PD70CNT12M5ML
Mute High	12 m	NO					PD70CNT12MH
Mute High	12 m	YES					PD70CNT12M5MH

Note: Please order emitter and receiver separately

Specifications Emitter

Rated operational volt. (U_B)	10 to 30 VDC	Light source	LED, 850 nm
Ripple (U_{rrp})	≤ 10%	Light type	Infrared, modulated
Supply current	≤ 20 mA	Optical angle	< ± 5°
Protection	Reverse polarity, transients	Indication function	LED, green
Test input			
Test High			
Emitter off	5 to 30 VDC		
Emitter on	< 2.5 VDC or not connected		
Test Low			
Emitter off	< 2.5 VDC		
Emitter on	5 to 30 VDC or not connected		

Specifications Receiver

Rated operating dist. (S_n)	12 m	Optical angle	$\pm 5^\circ$
Blind zone	None	OFF-state current (I_r)	$\leq 100 \mu A$
Temperature drift	$\leq 0.2\%/^\circ C$	Voltage drop (U_d)	$\leq 1.8 \text{ VDC @ } 100 \text{ mA}$
Hysteresis (H)	10 - 15%	Protection	Short-circuit, reverse polarity, transients
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	Operating frequency (f)	100 Hz
Ripple (U_{rp})	$\leq 10\%$	Response time	OFF-ON (t_{ON}) $< 5 \text{ ms}$ ON-OFF (t_{OFF}) $< 5 \text{ ms}$
Output current		Power ON delay (t_v)	$\leq 200 \text{ ms}$
Continuous (I_o)	$\leq 100 \text{ mA}$	Output function	NPN or PNP
Short-time (I)	$\leq 100 \text{ mA}$, (max. load capacity 100 nF)	Indication function	Output ON
No load supply current (I_o)	$\leq 16 \text{ mA}$		LED, yellow
Minimum operational current (I_m)	0.5 mA		
Ambient light	100.000 LUX		

General Specifications

Environment		Housing material	
Overvoltage category	II (IEC 60664/60664A, 60947-1)	Housing	PC black
Pollution degree	3 (IEC 60664/60664A, 60947-1)	Backpart receiver	PC Green
Degree of protection	IP 67 (IEC 60529, 60947-1)	Backpart emitter	PC Red
Temperature		Connection	
Operating	-25° to +55°C (-13° to +131°F)	Cable	PVC, TX: grey / RX: black, 5 m, 3 x 0.14 mm ² , Ø 2.9 mm
Storage	-40° to +70°C (-40° to +158°F)	Plug	M8 - 3 pole
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Weight (each sensor)	
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	With cable	90 g
Rated insulation voltage	50 VDC	With plug	20 g
		CE-marking	EN12445, EN12453, EN12978
		UL-Approval	cULus UL325, CSA-C22.2 No.247

Operation Diagram

t_v = Power ON delay

Power supply

Target emitter present

Object present

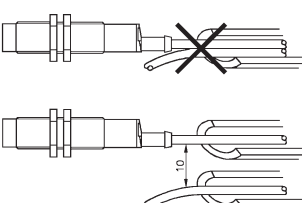
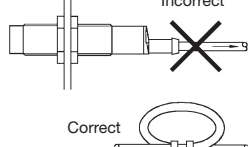
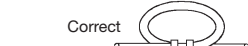
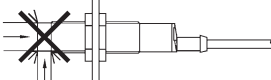
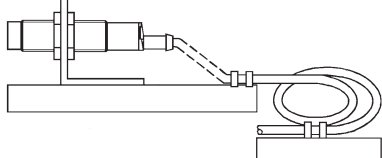
Break (NC) Output ON

Make (NO) Output ON

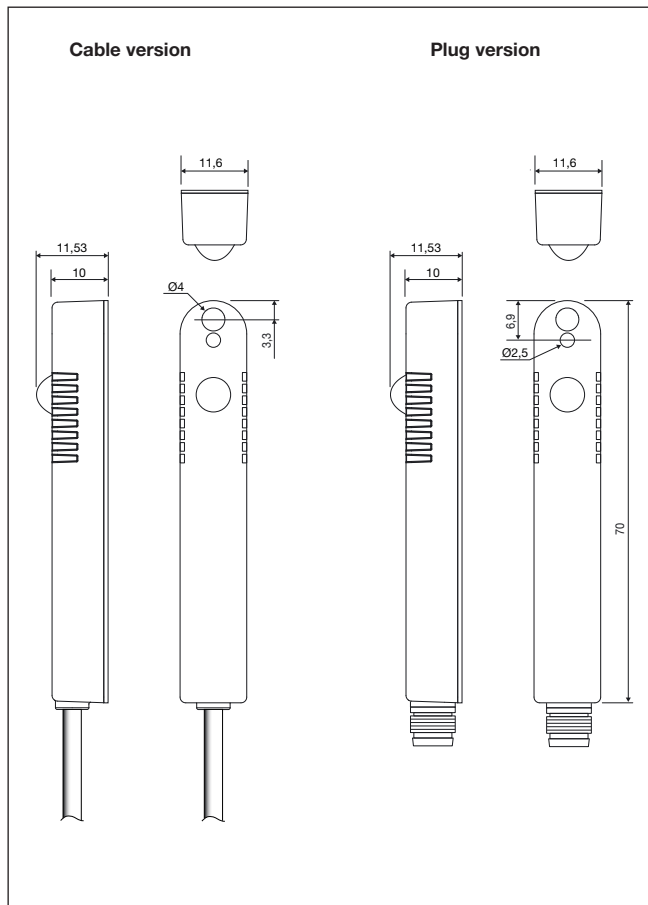
Test active High (MH)

Test active Low (ML)

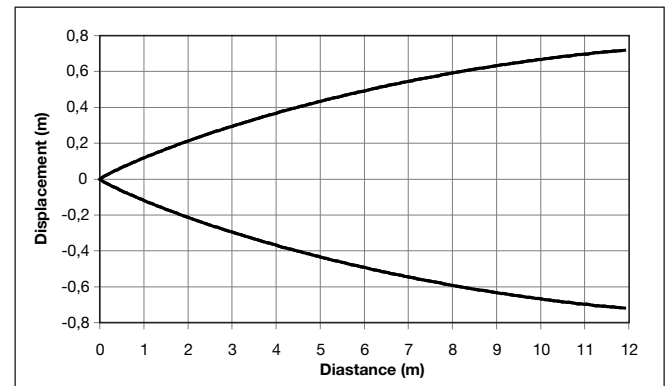
Installation Hints

To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables 	Relief of cable strain Incorrect  Correct  The cable should not be pulled	Protection of the sensing face  A proximity switch should not serve as mechanical stop	Switch mounted on mobile carrier  Any repetitive flexing of the cable should be avoided
---	---	---	--

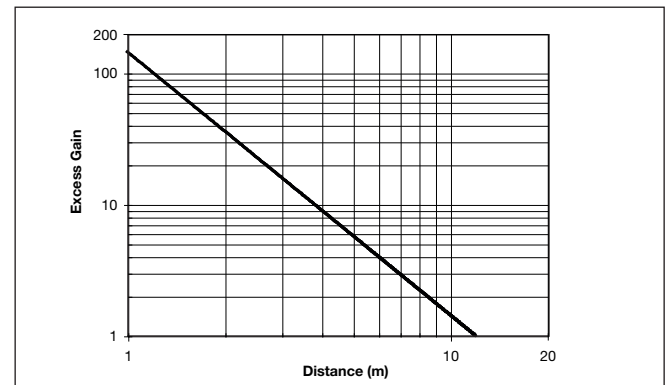
Dimensions



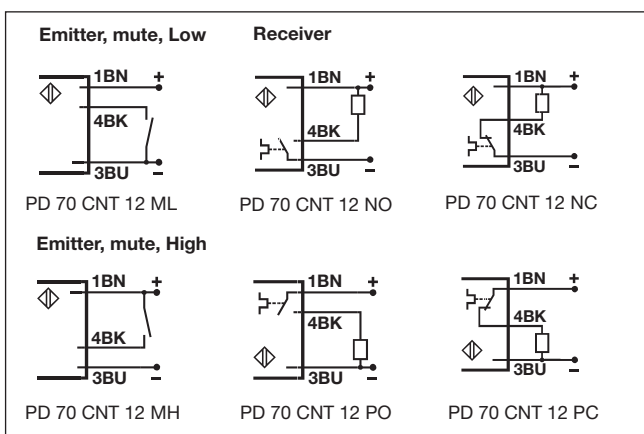
Detection Diagram



Excess Gain



Wiring Diagram



Delivery Contents

- PD70
- **Packaging:** plastic bag